

## Electrical Licensing and Inspection

# Bulletin - Electrical Code Interpretation

### SERVICE ENTRANCE CABLE - AMPACITY

National Electrical Code® Section 338-4 requires that Type SE service-entrance cable used for interior wiring must comply with the installation requirements of Parts A and B of Article 336 (Nonmetallic-Sheathed Cable).

- Part A of Article 336 contains the general requirements.
- Part B of Article 336 contains the installation requirements. Section 336-26 is new in the 1999 NEC®. The wording was previously located in Part C, Construction Specifications, Section 336-30(b) in the 1996 NEC®. The subject wording still restricts the ampacity of Type NM cable to that of 60°C.
- Part C of Article 336 contains the construction specifications. Section 336-30(b) requires that conductors in Type NM cable have insulation rated at 90°C.

Section 338-4 essentially refers installers to Section 336-26 where it would be interpreted that the ampacity of Type SE cable would be limited to that of 60°C. This reportedly was an oversight by the NEC® Technical Correlating Committee during the 1999 code cycle. Proposals have been submitted by industry persons to correct the oversight.

Summary - The ampacity of Type SE cable is determined by the temperature rating of the conductors within the cable. In most instances, the ampacity of Type SE cable will be that of 75°C, however the temperature rating for a particular brand of cable must be verified in accordance with the listing and labeling for the subject cable. The following information is contained in the Underwriters Laboratories Inc.® Electrical Construction Equipment Directory. The same information can be found at the UL® web site at [www.ul.com](http://www.ul.com)

*Service-entrance cable, rated 600 volts, is Listed in sizes No. 12 AWG and larger for copper, and No. 10 AWG and larger for aluminum or copper-clad aluminum. Type SE cable contains Type RHW, XHHW, or THWN conductors. Type USE cable contains conductors with insulation equivalent to RHW or XHHW. The Type designation of the conductors may be marked on the surface of the cable. When used, this marking indicates that the temperature rating for the cable corresponds to the temperature rating of the conductors. When this marking does not appear, the temperature rating of the cable is 75 C. Type USE-2 contains insulation equivalent to RHW-2 or XHHW-2 and is rated 90 C wet or dry.*